

C O M M E N T S

# Environmental Sustainability: Finding a Working Definition

by Scott Fulton, David Clarke, and María Amparo Albán

Scott Fulton is President of the Environmental Law Institute and a member of the United Nations Environment Programme's International Advisory Council on Environmental Justice. He is a former U.S. Environmental Protection Agency general counsel, environmental appeals judge, environmental prosecutor, and environmental diplomat. David Clarke formerly served as a Senior Director for science policy at the American Chemistry Council, as well as a speechwriter for senior U.S. Environmental Protection Agency officials. He is currently a freelance writer for government and private clients. María Amparo Albán is the former Executive Director and President of the Ecuadorian Environmental Law Center. She currently practices environmental law and collaborates with the International Center for Research on Environment and Land, Universidad de los Hemisferios, Ecuador.

## I. Sustainability's Limiting Ambiguity

Since at least 1987, when the World Commission on Environment and Development published *Our Common Future*, sustainability has become an increasingly central concept in redefining environmental stewardship—development that “meets the needs of the present without compromising the ability of future generations to meet their own needs.”<sup>1</sup> The most recent contribution to this conceptual framing can be found in the United Nations' ambitious Sustainable Development Goals (SDGs) for the developed and developing world. And yet, despite its expanding presence in environmental policy discourse since its first introduction almost 30 years ago, sustainability still suffers from ambiguity that must be overcome if governmental and private-sector decisionmakers are to optimize the concept's potential.

The march toward realizing the ideal of more responsible stewardship of the earth's natural resources continues to advance, notwithstanding dramatic changes in the political landscape. The current shift toward nationalism and protectionism indeed may impede international coordination and integration around sustainability ideals. In the United States, for example, a new administration has expressed skepticism toward sustainability challenges like climate change.<sup>2</sup>

But China and India appear to be stepping up their leadership on climate change, just as the United States may be taking a pause. At the January 2017 World Economic Forum at Davos, Switzerland, Chinese President Xi Jinping urged nations to follow through on their commitments under the 2015 Paris climate agreement. China reports making significant progress in its renewable energy investments, while India recently forecast it will exceed its Paris renewable energy targets, predicting that 57% rather than 40% of its total electricity capacity will derive from non-fossil fuel sources by 2027.

In the context of both climate change and the broader sustainability objective, we are witnessing a revolutionary push coming from local governments, nongovernmental organizations, and businesses—an emergent distributed model of change that relies less on the role of state actors. The private sector, seeing positive financial returns and reputational protection from investments in conservation and efficiency, increasingly sees sustainability as making economic sense, as well as serving as a hedge against risk. Climate change, for example, was recently estimated to put at risk \$2.5 trillion of global financial assets.<sup>3</sup> Perhaps unsurprisingly, conservation investments increased by a whopping 62% since 2013; \$8.2 billion was invested in “green ventures” between 2004 and 2015.<sup>4</sup> And environmental responsibility is increasingly seen as an established norm, perhaps nowhere more profoundly than with millennials<sup>5</sup>—the next generation of consumers, and business and

---

*Authors' Note: The authors are grateful to Cynthia R. Harris for her research and drafting assistance. Any views or opinions expressed in this Comment are solely our own, and do not necessarily represent those of the institutions with which we are affiliated.*

1. REPORT OF THE WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT: OUR COMMON FUTURE (Brundtland Report) (1987), available at <http://www.un-documents.net/our-common-future.pdf>.
2. See The White House, *An America First Energy Plan*, <https://www.whitehouse.gov/america-first-energy> (last visited Apr. 6, 2017).

3. Simon Dietz et al., “Climate Value at Risk” of Global Financial Assets, 6 NATURE CLIMATE CHANGE 676 (2016).
4. Kelley Hamrick, *State of Private Investment in Conservation 2016: A Landscape Assessment of an Emerging Market*, ECOSYSTEM MARKETPLACE (2016). Notably, in November 2016, 365 major U.S. companies and investors issued a public appeal to then-President-elect Donald Trump not to abandon the Paris climate accord.
5. For example, the latest University of Texas Energy Poll, released October 2016, found a distinction between millennials and older generations' attitudes on climate change, with more millennials believing climate change

political leaders. These powerful drivers promise continued momentum in the direction of sustainability, regardless of political headwinds.

This said, a good deal more could be accomplished if sustainability were reduced to a clearer and, ultimately, universally accepted frame serving as a consistent reference for policy development and decisionmaking. There have been efforts in this direction. Over the past decades, numerous standards have been developed as the basis for certifying the sustainability or “greenness” of specific products. Many offer highly detailed criteria.

Under the U.S. Green Building Council’s widely used Leadership in Energy and Environmental Design (LEED) green building certification programs, around 1.85 million square feet are LEED-certified every day, including in federal and state government buildings.<sup>6</sup> The Green Electronics Council, founded in 2005, manages the Electronic Product Environmental Assessment Tool (EPEAT) system; it uses 50 criteria to define which, among the many personal computers and displays, imaging equipment, and television sets, are “greener.” The Marine Stewardship Council’s certification system for sustainable seafood from wild fisheries was adopted by the Food and Agriculture Organization of the United Nations in 2005; a separate organization, the Aquaculture Stewardship Council, promotes and certifies sustainable aquaculture, or farmed fish. Dozens of sectors participate in the International Social and Environmental Accreditation and Labeling Alliance’s efforts to develop a common set of best practices for setting and measuring sustainability standards. Most major companies maintain their own sustainability programs and goals. However, developed to accentuate, distinguish, and protect company brands, corporate sustainability criteria are understandably somewhat different from company to company, even between companies in the same industrial sector.

And this metrics trend is doubling down. From coffee to cars, products and practices are being judged for their sustainability under proliferating certification systems that bear similarities yet vary in important ways, including with reference to national laws. For example, the Palm Oil Certification System includes elements that go beyond any

legal requirement from any producing or importing country.<sup>7</sup> But greater clarity and consistency would be valuable and, indeed, are needed if the sustainability aspiration is to become a more meaningful driver of public policy and help improve sustainability in the context of international trade.

The limited progress made in achieving the aspirational goals set out in *Our Common Future*,<sup>8</sup> the 1992 Rio Declaration on Environment and Development, the 2002 World Summit on Sustainable Development, and, most recently, the SDGs, underscores this need. Among countries, the lack of genuine agreement on the scope of sustainability created challenges during negotiations of the 2012 Rio Summit, and prevented a more robust and comprehensive declaration from taking place.<sup>9</sup> Beneath the surface was a general lack of consensus on where or how sustainability is to be considered, and on a State’s right to develop and protect its resources.

The emergence in the international sphere of the three pillars of sustainability—environmental, economic, and social—has, while pointing to the complexity of the sustainability challenge, also compounded the definitional problem. When the three pillars are conflated in decision-making processes, paralysis sets in because of analytical complexity, a lack of consensus about prioritizing between pillars, or issues that go beyond the jurisdiction or expertise of the deciding entity.

## II. Sharpening the Definition: A Proposal

We propose a renewed focus on the discrete idea of environmental sustainability and offer, as a solution, a functional working definition to articulate what has been admittedly an amorphous concept. In particular, we propose borrowing from one of the pioneering expressions of environmental awareness: the U.S. National Environmental Policy Act (NEPA),<sup>10</sup> signed into law on the first day of 1970. It is worth recalling that NEPA was enacted at a time when environmental concern transcended political party differences and that its bipartisan conceptualization has endured, helping spark a worldwide movement toward pollution control and natural resource protection and, in general, sustainability-based decisionmaking.

is occurring. Survey results can be found at the University of Texas at Austin Energy Poll, *Millennials’ Strong Views on Climate Change and Other Energy Issues Could Drive Presidential Election Results*, Oct. 27, 2016, <http://www.utenergypoll.com/newsroom/>. Regarding energy issues, millennials tend to support decreased use of coal, implementing a carbon tax, and a shift toward alternative fuel and electric vehicles. Additionally, Corporate Citizenship found that 81% of millennials believe business has a key role to play in achieving the SDGs. NANA H. GUAR, CORPORATE CITIZENSHIP, *ADVANCING THE SUSTAINABLE DEVELOPMENT GOALS: BUSINESS ACTION AND MILLENNIALS’ VIEWS* (2016), available at <http://corporate-citizenship.com/wp-content/uploads/Advancing-the-Sustainable-Development-Goals-Business-Action-and-Millennials-Views.pdf>.

6. U.S. Green Building Council, *Leadership in Energy and Environmental Design*, <http://www.usgbc.org/leed> (last visited Apr. 6, 2017).

7. The Roundtable for Sustainable Palm Oil has, for example, among its principles and criteria on sustainability practices, introduced a highly stringent prerequisite, in the form of “Free Prior Informed Consent,” with respect to both indigenous populations and nearby communities.

8. The Brundtland Commission’s definition of sustainable development is the most often cited: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” See REPORT OF THE WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, *supra* note 1, §3(27).

9. During the negotiation of the 2012 Rio Declaration “The Future We Want,” there was a noticeable disparity of criteria between developed countries and developing countries, represented by the Group of 77 plus China, on subjects such as the definition of “green economy,” poverty eradication, and sustainable development.

10. 42 U.S.C. §§4321-4370(h), ELR STAT. NEPA §§2-209.

Specifically, a passage in §102 of NEPA stipulates that “to the fullest extent possible . . . the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in [NEPA],” such as the nation’s commitment to “enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.” To that end, “every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment” should include a detailed statement on its environmental impacts, including as a key consideration “**any irreversible and irretrievable commitments of resources** which would be involved in the proposed action should it be implemented.”

Based on this NEPA text, we suggest the following as a working definition for environmental sustainability: “*The avoidance, to the maximum practicable extent, of irreversible and irretrievable commitment of resources.*” While the terminology section of the Council on Environmental Quality’s (CEQ’s) Regulations for Implementing the Procedural Requirements of NEPA does not define either “irreversible” or “irretrievable,” we propose adopting the definition of those key terms found in the Federal Aviation Administration’s policy and procedures for complying with NEPA and implementing CEQ regulations, which states:

**Irreversible** is a term that describes the loss of future options. It applies primarily to the impacts of use of nonrenewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity, that are renewable only over long periods of time. **Irretrievable** is a term that applies to the loss of production, harvest, or use of natural resources.<sup>11</sup>

In addition, the November 3, 2015, *Presidential Memorandum: Mitigating Impacts on Natural Resources From Development and Encouraging Related Private Investment*<sup>12</sup> provides useful language in its discussion of the approach federal agencies should take to avoid, minimize, and compensate for resource impacts. The memorandum states, “That approach should also recognize that existing legal authorities contain additional protections for some resources that are of such irreplaceable character that minimization and compensation measures, while potentially practicable, may not be adequate or appropriate, and therefore agencies should design policies to promote avoidance of impacts to these resources.”

The NEPA-derived definition we propose above explicitly includes “practicable” for two reasons. First, practicability, feasibility, and the presence or absence of alternatives

constitute an essential part of NEPA’s considerations. Second, sustainability carries with it the sometimes overlooked imperative of meeting the needs of the present generation, while also protecting the interests of those yet to come. For these reasons, sustainability contemplates balance and can never operate in the absolute. Simply put, there will likely be circumstances in which the needs of present peoples cannot be met without the irreversible and irretrievable commitment of resources. In these circumstances, the goal, consistent with our working definition, should be conservationist consumption that preserves as much of the resource as practicable for future generations.

This definition complements the environmental dimensions of the SDGs for 2030, adopted by the United Nations General Assembly, four of which focus explicitly on improving natural resource management and protecting biodiversity. The SDGs are similarly pragmatic in terms of recognizing the necessity to balance the needs of the present generation against the needs of future generations, and acknowledging that each participating State is limited by its own capacities for creating conditions for sustainable growth.

Seen in this light, embracing environmental sustainability as a guide to making decisions going forward should not, and need not, be an intractable bar to particular economic development opportunities that help meet the needs of present peoples. Under NEPA, the goal is thoughtful decisionmaking to “attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences”<sup>13</sup>—a goal that inherently allows flexibility while demanding intellectual and scientific rigor. Similarly, the SDGs are ultimately human-focused in their aim to sustainably manage the planet’s natural resources in order to reliably support social and economic development.<sup>14</sup>

Notably, the 2030 Agenda for Sustainable Development specifically references the Declaration on the Right to Development and each participating State’s sovereignty over its own natural resources. This is a nod to the political and economic realities involved in attempting to implement such a broad-reaching and intergenerational objective.

Perhaps it is unsurprising that tangible action to implement the SDGs and similarly ambitious programs has been limited. But a clearer articulation of what environmental sustainability means—one that focuses on avoiding the irreversible and irretrievable commitment of resources—could advance the goal. Clearly, this would help drive policy in a number of key directions:

11. FEDERAL AVIATION ADMINISTRATION, OFFICE OF ENVIRONMENT AND ENERGY, 1050.1F DESK REFERENCE 16-1 (2015), available at [https://www.faa.gov/about/office\\_org/headquarters\\_offices/apl/environ\\_policy\\_guidance/policy/faa\\_nepa\\_order/desk\\_ref/media/desk-ref.pdf](https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/desk-ref.pdf).  
12. Presidential Memorandum on Mitigating Impacts on Natural Resources From Development and Encouraging Related Private Investment (Nov. 3, 2015), available at <https://obamawhitehouse.archives.gov/the-press-office/2015/11/03/mitigating-impacts-natural-resources-development-and-encouraging-related>.

13. 42 U.S.C. §4331(b)(3).

14. This human-centric orientation dates back to Principle 21 of the Stockholm Declaration of 1972 (later incorporated as Principle 2 of the Rio Declaration), which reflected the priority that States have assigned to sovereignty over exploitation of natural resources for the benefit of their peoples, a priority that has been further contextualized as countries have advanced in law making and public policy integration. See *Declaration of the United Nations Conference on the Human Environment*, U.N. Doc. A/Conf.48/14/Rev. 1 (1973); 11 I.L.M. 1416 (1972), available at <http://www.un-documents.net/unchedec.htm>.

- It necessarily encourages the further development of renewable resources, which are by definition never irreversibly or irretrievably lost.
- It pushes strongly in the direction of smart materials management and the need to harvest, to the maximum extent possible, natural resources already entrained in commerce as an alternative to harvesting virgin materials.<sup>15</sup>
- In the United States, it suggests a need for modernizing waste management regulations that currently push far too much potentially reusable material onto the destruction conveyor.
- Internationally, it raises questions about the advisability of restricting movement of waste materials where that movement enables environmentally responsible recovery of entrained resources.
- It pushes toward recovery,<sup>16</sup> rather than functional condemnation (with or without compensation) of natural resources such as aquifers and land.
- It is compatible with and encouraging of environmental protection programs that seek to protect *both* human resources in terms of loss of life or health from pollution vectors *and* animal and plant resources from extinction or virtual extinction.
- It would allow environmental authorities to operate within their areas of core strength and jurisdictional certainty.

No doubt other specific policy directions can be derived from adopting the fresh vision of NEPA's text, articulated almost 50 years ago, as the basis for a working definition of environmental sustainability. Perhaps NEPA's conservation ideal—an ideal that has driven much good so far—has a greater contribution yet to make if the earth's resources are to continue to sustain us, generation after generation.

---

15. The concepts and practices of a “circular economy,” “industrial ecology,” and the like are especially significant in this regard.

16. Some country-level laws in the Latin American region use the concept of “restoration” as an alternative, not only in relation to the affected resources or to damaged ecosystem functionality, but also in relation to communities in terms of proper compensation of socioenvironmental impacts.